

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

- 1 1. (Currently Amended) A system for use in a well, comprising:
2 ~~at least one~~ a plurality of wireless network ~~device~~ devices in the well, the plurality of
3 wireless network devices in the well to communicate wirelessly using a protocol
4 that defines short-range wireless communication.

- 1 2. (Currently Amended) ~~[[The]] A system of claim 1, further~~ for use in a well, comprising:
2 a plurality of wireless network devices in the well, the plurality of wireless network
3 devices to communicate wirelessly using a Bluetooth wireless communication
4 protocol.

- 1 3. (Original) The system of claim 1, further comprising:
2 an interlink wireless network device positioned proximal the surface of the well;
3 a communication line interconnecting the interlink wireless network device to a surface
4 controller.

- 1 4. (Currently Amended) The system of claim 1, further comprising:
2 ~~[[the]] at least one~~ of the wireless network ~~device~~ devices communicating with a
3 downhole device.

1 5. (Currently Amended) The system of claim 4, wherein the downhole device is selected
2 from gauges, sensors, valves, sampling devices, a device used in intelligent or smart well
3 completion, temperature sensors, pressure sensors, flow-control devices, flow rate
4 measurement devices, oil/water/gas ratio measurement devices, scale detectors, actuators,
5 locks, release mechanisms, equipment sensors-(e.g., vibration sensors), sand detection
6 sensors, water detection sensors, data recorders, viscosity sensors, density sensors, bubble
7 point sensors, composition sensors, resistivity array devices and sensors, acoustic devices
8 and sensors, other telemetry devices, near infrared sensors, gamma ray detectors, H₂S
9 detectors, CO₂ detectors, downhole memory units, downhole controllers, perforating
10 devices, shape charges, firing heads, and locators.

1 6. (Currently Amended) The system of claim 1, further comprising:
2 [[the]] at least one of the wireless network ~~device~~ devices in communication with a
3 power source.

1 7. (Original) The system of claim 6, wherein the power source is selected from a battery, a
2 fuel cell, a downhole power generator, and a communication line extending to a surface
3 of the well.

1 8. (Currently Amended) The system of claim [[1]] 2, further comprising:
2 at least one of the wireless network ~~device~~ devices positioned in a lateral branch of a
3 multilateral well.

1 9. (Currently Amended) The system of claim [[1]] 2, ~~further comprising wherein:~~
2 a first of the wireless network ~~device~~ devices is positioned in a lateral branch of a
3 multilateral well;
4 a second of the wireless network ~~device~~ devices is positioned outside the lateral branch in
5 another portion of the well;
6 the first wireless network device and second wireless network device positioned within
7 range of one another.

- 1 10. (Currently Amended) The system of claim [[1]] 2, further comprising:
2 a wireless network device in a wellhead of the well to communicate wirelessly with at
3 least one of the wireless network devices in the well using the Bluetooth wireless
4 communication protocol.
- 1 11. (Currently Amended) The system of claim 10, further comprising:
2 a wireless network device outside the well adapted to communicate wirelessly with ~~the~~ at
3 least one of the wireless network ~~device~~ devices in the wellhead.
- 1 12. – 13. (Cancelled)
- 1 14. (Currently Amended) The system of claim 1, further comprising:
2 a wireless network device outside the well adapted to communicate wirelessly with ~~the~~ at
3 least one of the wireless network ~~device~~ devices in the well using the protocol.
- 1 15. (Cancelled)
- 1 16. (Currently Amended) The system of claim [[1]] 2, further comprising at least one
2 secondary communication system in communication with the at least one of the wireless
3 network ~~device~~ devices.
- 1 17. (Original) The system of claim 16, wherein the secondary communication system is
2 selected from communication line, a fiber optic line, an Internet, a satellite, a telephone
3 system, and an intranet.
- 1 18. (Original) The system of claim 16, wherein the at least one secondary communication
2 system provides communication between the at least one wireless network device and a
3 location selected from a remote land-based location and an offshore surface location.

1 19. (Currently Amended) The system of claim [[1]] 2, ~~further comprising~~ wherein:
2 a first one of the wireless network ~~device~~ devices is positioned outside a casing in the
3 well;
4 a second one of the wireless network ~~device~~ devices is positioned inside the casing of the
5 well;
6 the first wireless network device and the second wireless network device adapted to
7 communicate wirelessly with one another.

1 20. (Original) The system of claim 19, further comprising:
2 a memory device communicating with the first wireless network device.

1 21. (Original) The system of claim 19, wherein:
2 the second wireless network device is mounted in the well.

1 22. (Original) The system of claim 19, further comprising:
2 the second wireless network device is provided on a running tool.

1 23. (Currently Amended) The system of claim 1, ~~further comprising~~ wherein:
2 a first of the wireless network ~~device~~ devices is positioned outside a tubing in the well;
3 a second of the wireless network ~~device~~ devices is positioned inside the tubing of the
4 well;
5 the first wireless network device and the second wireless network device adapted to
6 communicate wirelessly with one another.

1 24. (Original) The system of claim 23, further comprising:
2 a memory device communicating with the first wireless network device.

1 25. – 27. (Cancelled)

1 28. (Currently Amended) The system of claim 23, further comprising:
2 at least a portion of the tubing extends through a casing in the well;
3 a third of the wireless network ~~device~~ devices positioned inside the casing of the well;
4 the first wireless network device, the second wireless network device, and the third
5 wireless network device are adapted to communicate wirelessly with one another.

1 29. (Original) The system of claim 28, wherein:
2 the first wireless network device relays information between the second wireless network
3 device and the third wireless network device.

1 30. (Cancelled)

1 31. ~~The system of claim 30, wherein:~~ A system comprising:
2 a tool having a first wireless network device, the tool movable in the well;
3 ~~the at least one~~ at least a second wireless network device in the well located at a
4 predetermined position therein; and
5 a depth correlation circuitry in the tool ~~[[is]]~~ in communication with the first wireless
6 network device in the tool ~~and is adapted to detect a signal from the connected~~
7 first wireless network device ~~and determine~~ for determining the depth of the tool
8 in the well ~~therefrom~~, the signal from the first wireless network device based on
9 wireless communication between the first and second wireless network devices.

1 32. (Currently Amended) The system of claim 31, further comprising:
2 a ~~plurality of third~~ wireless network ~~devices~~ device in the well;
3 wherein the tool detects the signal of at least two of the plurality of is based on wireless
4 communication between the first wireless network device and the second and
5 third wireless network devices ~~to determine the depth of the tool.~~

1 33. (Currently Amended) The system of claim 31, further comprising:
2 a ~~plurality of third~~ wireless network ~~devices~~ device in the well;
3 wherein the tool detects the signal of at least three of the plurality of is based on
4 triangulation among the first, second, and third wireless network devices ~~to~~
5 triangulate the depth of the tool.

1 34. – 38. (Cancelled)

1 39. (Currently Amended) A method for use in a well, comprising:
2 providing ~~[[a]] plural~~ wireless network ~~device~~ devices in well; and
3 the plural wireless network devices communicating wirelessly using a protocol that
4 defines short-range wireless communication.

1 40. (Currently Amended) ~~[[The]] A method of claim 39, further~~ for use in a well,
2 comprising:
3 providing a plurality of wireless network devices in the well; and
4 the plurality of wireless network devices communicating wirelessly using a Bluetooth
5 wireless communication protocol.

1 41. (Currently Amended) The method of claim 39, further comprising:
2 communicating with a downhole device via at least one of the wireless network ~~device~~
3 devices.

1 42. (Currently Amended) The method of claim 39, further comprising:
2 powering at least one of the wireless network ~~device~~ devices with a downhole power
3 source.

1 43. (Currently Amended) The method of claim ~~[[39]] 40~~, further comprising:
2 telemetering data in a multilateral well using the wireless network ~~device~~ devices.

- 1 44. (Currently Amended) The method of claim 39, further comprising:
2 telemetering data from the well to a position outside the well using at least one of the
3 wireless network ~~device~~ devices.
- 1 45. (Currently Amended) The method of claim ~~[[39]]~~ 40, further comprising:
2 telemetering data from through a casing using at least one of the wireless network ~~device~~
3 devices.
- 1 46. (Currently Amended) The method of claim ~~[[39]]~~ 40, further comprising:
2 telemetering data from through a tubing using at least one of the wireless network ~~device~~
3 devices.
- 1 47. (Currently Amended) The method of claim ~~[[19]]~~ 40, further comprising:
2 storing information downhole;
3 transferring the stored information to a running tool via at least one of the wireless
4 network ~~device~~ devices.
- 1 48. (Currently Amended) The method of claim ~~[[30]]~~ 47, further comprising:
2 determining the depth of a tool in the well using at least one of the wireless network
3 ~~device~~ devices.
- 1 49. (Currently Amended) The method of claim ~~[[30]]~~ 40, ~~wherein~~ further comprising:
2 actuating a tool in the well using at least one of the wireless network ~~device~~ devices.
- 1 50. (Cancelled)

- 1 51. (Original) A system for use in a well, comprising:
2 a first device positioned in the well;
3 a second device remotely located with respect to the first device;
4 means for transferring data between the first device and the second device using short-
5 range wireless communication operating without the need for a central network.
- 1 52. (Currently Amended) A subsea networking system, comprising:
2 a wireless network device positioned in a subsea structure;
3 a subsea vehicle having a wireless network device therein that is adapted to communicate
4 based on a radio frequency wireless protocol with the wireless network device
5 positioned in the subsea structure.
- 1 53. (Currently Amended) The ~~method~~ system of claim 52, wherein:
2 the subsea structure is selected from a wellhead, a subsea processing device, a power
3 generation device and a subsea monitor.
- 1 54. (Currently Amended) The ~~method~~ system of claim 52, wherein:
2 the subsea vehicle is selected from an ROV and a AUV.
- 1 55. (Currently Amended) A subsea telemetry system, comprising:
2 a wireless network device positioned proximal the sea floor;
3 a subsea vehicle having a wireless network device therein that is adapted to communicate
4 based on a radio frequency wireless protocol with the wireless network device
5 positioned proximal the sea floor.

1 56. (Currently Amended) ~~The system of claim 55, further comprising:~~ A subsea telemetry
2 system, comprising:
3 a wireless network device positioned proximal the sea floor;
4 a subsea vehicle having a wireless network device therein that is adapted to communicate
5 with the wireless network device positioned proximal the sea floor; and
6 a guidance circuitry of the subsea vehicle in communication with the wireless network
7 device of the subsea vehicle, the guidance circuitry adapted to determine the
8 relative position of the subsea vehicle based upon input from the interconnected
9 wireless network device.

1 57. (New) A system for use in a well, comprising:
2 a tool containing a first wireless network device, the tool movable in the well during a
3 downhole operation;
4 a second wireless network device for location in the well,
5 wherein the first wireless network device is outside a wireless communication range of
6 the second wireless network device until the tool is moved into proximity of the
7 second wireless network device.

1 58. (New) The system of claim 57, the second wireless network device to transmit a location
2 code to the first wireless network device.

1 59. (New) The system of claim 57, wherein the tool includes a depth correlation device to
2 correlate a position of the tool based on wireless communication between the first and
3 second wireless network devices.

1 60. (New) The system of claim 57, further comprising at least another wireless network
2 device for location in the well, the first wireless network device to perform triangulation
3 of signals to determine relative position of the tool to the second wireless network device
4 and the at least another wireless network device.

- 1 61. (New) The system of claim 57, the second wireless network device to send an actuating
2 signal to the first wireless network device for actuating the tool once the tool comes
3 within range of the second wireless network device.
- 1 62. (New) The system of claim 61, wherein the tool comprises a perforating gun, and the
2 actuating signal comprises a firing signal to fire the perforating gun.
- 1 63. (New) The system of claim 61, wherein the tool comprises a valve actuated by the
2 actuating signal.
- 1 64. (New) The system of claim 61, wherein the tool comprises a release mechanism that
2 releases sensors from the tool in response to the actuation signal.
- 1 65. (New) The system of claim 61, wherein the tool comprises a sampler to take a sample in
2 response to the actuating signal.
- 1 66. (New) The system of claim 61, wherein the tool comprises a recorder that starts
2 recording in response to the actuating signal.
- 1 67. (New) The system of claim 1, wherein the protocol comprises a Bluetooth protocol.
- 1 68. (New) The method of claim 39, wherein communicating wirelessly using the protocol
2 comprises communicating wirelessly using a Bluetooth protocol.
- 1 69. (New) The system of claim 51, wherein the short-range wireless communication is
2 according to a Bluetooth protocol.